

## REMARKS/ARGUMENTS

In the November 21, 2005, Final Office Action, claims 1-6 and 8-9 were rejected. In the present response, no amendments to the claims were made. Thus, claims 1-6 and 8-9 are pending. No new matter was added.

Applicants acknowledge and thank the Examiner for withdrawal of the double patenting rejections.

### *Rejections Under 35 U.S.C. § 102(b)*

Claims 1, 3, and 5-6 were rejected as being anticipated by Mizutani *et al.* (U.S. Patent No. 5,780,530) as evidenced by Wu *et al.* (U.S. Patent No. 6,039,872). Applicants respectfully traverse these rejections.

Mizutani *et al.* is not directed to moisture curing, even if alkoxy silane groups are present (see column 4, lines 3-16). When alkoxy silane groups are present in the coatings of Mizutani *et al.*, the alkoxy silyl equivalent weight is greater than 650, with a most preferred alkoxy silyl equivalent weight of about 1500 (see column 4, lines 3-6). If, however, too many alkoxy silyl groups are present, the alkali resistance of the coating film would be adversely affected due to the formation of Si-O-Si linkages upon curing, and the coating composition would tend to gel when exposed to moisture (see column 4, lines 9-15). This also applies to the silicone polyol. Thus, moisture curing should be avoided in the coating compositions of Mizutani *et al.*.

The curing mechanism in the compositions of Mizutani *et al.* is the reaction between the hydroxyl groups of the different polyols and the curing agent reactive with hydroxyl groups. The optionally present unsaturated groups in the silicon polyol are used to chemically combine these polyols with other polyol resins (see column 6, lines 25-32). The polyol reaction product is then also reacted with the curing agent.

Thus, neither moisture curing nor radical polymerization is a curing mechanism in the coating compositions of Mizutani *et al.*, even if the basic polyol resin structural features (e.g., hydroxyl, alkoxy silyl, double bond) of the resins of Applicants' claimed invention are optionally present. Contrarily, in Applicants' claimed invention, the coating composition is expressly cured by moisture curing of alkoxy silane groups and radical polymerization of double bonds. The hydroxyl groups of Applicants' claimed invention do not participate in curing; that is, no curing

agents reactive with the hydroxyl groups are used. Applicants' thus respectfully submit that Mizutani *et al.* cannot anticipate Applicants' claim 1 invention.

Applicants reiterate that Wu *et al.* only states the well-known principle that radical polymerization can occur by heat. Because nothing in Mizutani *et al.* indicates that the coating compositions therein are cured by radical polymerization, and Wu *et al.* does not make clear that the missing descriptive matter is *necessarily* present in Mizutani *et al.*, see MPEP § 2112(IV), Wu *et al.* is simply inapplicable to the present invention.

Because claims 3 and 5-6 are dependent claims, which recite even further limitations to the claim that has already been traversed, Applicants rely upon the arguments presented above in rebuttal to the Examiner's assertion that claims 3 and 5-6 are anticipated by Mizutani *et al.*.

***Rejections Under 35 U.S.C. § 103(a)***

Claims 1-6 and 9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Mizutani *et al.* in view of Wu *et al.* Applicants respectfully traverse these rejections.

As noted above, Mizutani *et al.* is not directed to moisture curing or radical polymerization. Applicants thus rely upon the arguments presented above in rebuttal to the Examiner's assertion that claims 1-6 and 9 are unpatentable over Mizutani *et al.* in view of Wu *et al.*

Claims 1-6 and 8-9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Gaglani (U.S. Patent No. 5,312,943) in view of Murase (U.S. Patent No. 4,246,368) in further view of Wu *et al.* Claims 1-6 and 8-9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Maag *et al.* (U.S. Patent No. 6,333,077) in view of Gaglani in further view of Wu *et al.* in further view of Bergstrom *et al.* (U.S. Patent No. 6,384,125). Applicants respectfully traverse these rejections.

In the previous response, Applicants explained that Gaglani does not disclose automobile coatings, but rather is directed to the coating of circuit boards. The mere fact that a circuit board may be in an automobile, a fact Applicants do not dispute, does not automatically mean that a circuit board is a "vehicle part" within the scope of *Applicants' specification*. Claim terms must be given their broadest reasonable

definition. MPEP § 2111. Further, the plain meaning of a claim term “refers to the ordinary and customary meaning given to the term by those of ordinary skill in the art.” *Id.* § 2111.01(II). The Examiner’s overly broad definition of vehicle part is simply inconsistent with how one of ordinary skill in the art would read Applicants’ specification. As is known to one of ordinary skill in the art—the relevant art being vehicle coatings—coating a vehicle is coating the *body* of the vehicle. Logically flowing from this fact is that a vehicle part is a *body part*. Because a circuit board is not a body part, the Examiner’s definition of vehicle part is unreasonably broad. Consequently, Gaglani is inapplicable to Applicants’ claimed invention.

Turning to Murase, Applicants maintain that Murase is directed solely to powder coatings. The Examiner relies on a single statement in Murase at column 1, lines 21-27, as support for the argument that Murase discloses more than powder coatings. Use of this statement to prove that Murase teaches more than powder coatings is completely fallacious. The statement in Murase is merely an acknowledgement of what anyone of ordinary skill in the art knows—namely, that the usual procedure in the coatings field in general, and vehicle coatings in particular, is to coat a substrate with different (more than one) coating layers. What Murase does teach, as evidenced throughout the entire disclosure, is powder coating compositions for forming multi-layer coatings (see, e.g., column 1, lines 5-10; column 2, lines 21-27; column 2, lines 28-31; column 2, lines 34-46). Consequently, Applicants reiterate their position from their June 20, 2005, Response to Non-Final Office Action, namely that there is no disclosure, suggestion, or motivation within Murase to modify Gaglani to produce multi-layer automotive coatings.

Applicants also maintain that their claimed invention is patentable over Gaglani in view of Maag *et al.* The UV-curable polyurethane(meth)acrylate binders disclosed in Gaglani which have alkoxy silane groups are not included in the Maag *et al.* definition of binders. The binders of Maag *et al.* are *thermally curable* by addition or condensation. One of ordinary skill in the art knows that thermal curing is a reaction between complementary functional groups. Maag *et al.* explain this reaction in further detail at column 4, line 45 – column 5, line 53. By contrast, when curing the alkoxy silane groups in the binders of Gaglani, as well as the alkoxy silane groups in Applicants’ claimed invention, water (e.g., humidity) is needed to initiate the

reaction. This reaction is *moisture curing*. Applicants describe this process in relation to the claimed invention noting that moisture curing occurs by means of hydrolysis, followed by a subsequent condensation of alkoxy silane groups (see page 4, line 34 – page 5, line 2). Addition of water to alkoxy silane groups (Si-OR) leads to the formation of silanol groups (SiOH) and subsequent condensation of silanol groups leads to siloxane bridges (Si-O-Si). In other words, moisture curing is a hydrolysis reaction (i.e., a reaction with water), whereas condensation is a reaction where water is formed as a side-product.

Applicants believe that the Examiner misinterpreted their arguments related to Bergstrom *et al.* The statement “single OH groups linked to the backbone of the binder that do not participate in curing” was intended to be used as an aid in explaining to the Examiner that hydroxyl groups (as found in Applicants’ claimed invention) and silanol groups (as disclosed in Bergstrom *et al.*) are not the same. Applicants’ specification at no point limits hydroxyl groups only to the polyurethane backbone. On the contrary, the specification only notes that hydroxyl groups can be “obtained or introduced using measures known to the person skilled in the art” (page 7, lines 1-2). Amending the claim to include the statement used in the previous response would unduly limit the claim. Applicants intend no such limitation.

Apparently, further explanation as to the differences between Applicants’ claimed invention and Bergstrom *et al.* is needed. Claim 1, as written, clearly defines that Applicants’ binders have *hydroxyl groups*. Contrarily, Bergstrom *et al.* disclose curing by hydrolysis/condensation of *silanol groups* or alkoxy silane groups. A silanol group is *not* a hydroxyl group. One of ordinary skill in the art absolutely knows the chemical and reactivity differences between hydroxyl groups and silanol groups. Thus, because the claim clearly indicates that *hydroxyl groups* are required in the binders, Bergstrom *et al.* is simply inapplicable to Applicants’ claimed invention.

Because claims 2-6 and 8-9 are dependent claims, which recite even further limitations to the claim that has already been traversed, Applicants respectfully submit that these claims are patentable over any combination of the references cited above.

***Summary***

In view of the foregoing amendments and remarks, Applicants submit that this application is in condition for allowance. In order to expedite disposition of this case, the Examiner is invited to contact Applicants' representative at the telephone number below to resolve any remaining issues. Should there be a fee due which is not accounted for, please charge such fee to Deposit Account No. 04-1928 (E.I. du Pont de Nemours and Company).

Respectfully submitted,

By:   
Hilmar L. Fricke  
Attorney for Applicants  
Reg. No.: 22,384  
Telephone: (302) 984-6058  
Facsimile: (302) 658-1192

Dated: February 16, 2006

By:   
Jeffrey B. Safran  
Attorney for Applicants  
Reg. No.: 54,689  
Telephone: (302) 984-6132  
Facsimile: (302) 658-1192

Dated: February 16, 2006